UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,443	02/06/2004	Takeshi Morikawa	018656-681	5146

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EXAMINER
RILEY, MARCUS T

ART UNIT	PAPER NUMBER
2625	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/772,443	MORIKAWA ET AL.
	Examiner	Art Unit	
	Marcus T. Riley	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _06 February 2004_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-19_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-19_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _06/02/04_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _attached_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   **Claims 1-8, 10-15, 17-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Yoshida et al. (US 6,130,757 hereinafter, Yoshida '757) in combination with Dye et al. (US

6,208,273 hereinafter, Dye '273).

Regarding claim 1; Yoshida '757 discloses a data processing apparatus comprising: one

or more compression/decompression units that compress the data for the input job and

decompress the compressed data (*"image data is then compressed by compressing unit 311 and

is stored into code memory 306 as compressed image data."* column 8, lines 1-3). See also ("

...*the image data is read from code memory 306, decompressed by decompressing unit 312, and

written into image memory 304 as decompressed image data."* column 8, lines 32-34).

Yoshida '757 does not expressly disclose a controller that, when a processing request is

issued for processing of the data for a next job by said compression/decompression unit(s) during

processing of the data for a current job by said compression/decompression unit(s), obtains the

processing wait period between pages of said current job, determines whether or not the data for

said next job will undergo compression or decompression based on a comparison between the

minimum processing time for said next-job data and said processing wait period, and controls the

execution of processing of said next job by said compression/decompression unit(s) between

pages of said current job in accordance with this determination.

Dye '273 discloses a controller that, when a processing request is issued for processing of

the data for a next job by said compression/decompression unit(s) during processing of the data

for a current job by said compression/decompression unit(s), obtains the processing wait period

between pages of said current job, determines whether or not the data for said next job will

undergo compression or decompression based on a comparison between the minimum

processing time for said next-job data and said processing wait period, and controls the execution

of processing of said next job by said compression/decompression unit(s) between pages of said

current job in accordance with this determination (*"Thus, the compression cache control unit

281 along with the switch unit 261 determine the transaction type, priority and control required

to complete the transaction by either the L3 data cache 291, the parallel compression and

decompression unit 251 or the main memory interface 560."* column 21, lines 63-67).

Yoshida '757 and Dye '273 are combinable because they are from the same field of

endeavor of data compression/decompression (*"The present invention relates to computer system

architectures, and more particularly to a system and method for performing parallel data

compression and decompression..."* Dye '273 at column 1, lines 23-26).

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to modify the data processing apparatus as taught by Yoshida '757 by adding a controller

that, when a processing request is issued for processing of the data for a next job by said

compression/decompression unit(s) during processing of the data for a current job by said compression/decompression unit(s), obtains the processing wait period between pages of said current job, determines whether or not the data for said next job will undergo compression or decompression based on a comparison between the minimum processing time for said next-job data and said processing wait period, and controls the execution of processing of said next job by said compression/decompression unit(s) between pages of said current job in accordance with this determination as taught by Dye '273.

The motivation for doing so would have been to improve latency and reduce performance degradations (*"To improve latency and reduce performance degradations normally associated with compression and decompression techniques..."* Dye '273 at column 4, lines 33-36).

Therefore, it would have been obvious to combine Yoshida '757 with Dye '273 to obtain the invention as specified in claim 1.

Regarding claim 2; Yoshida '757 discloses where the processing wait period is longer than said minimum processing time, said controller permits said compression/decompression unit(s) to process said next job between pages of said current job (*"For printing, the image data is read from code memory 306, decompressed by decompressing unit 312, and written into image memory 304 as decompressed image data. The image data in image memory 304 is transferred to print processing unit 40 via rotation processing unit 307 and multi-valuing unit 308."* column 8, lines 33-38). See also (*"CPU 103 judges whether another page should be processed by referring to the memory management table while the current page is processed. If there is no other pages to be processed, CPU 103 performs the termination process for the current job and*

judges whether there is another job (S86, S80)." column 17, lines 66-67 thru column 18, lines 1-4).

Regarding claim 3; Yoshida '757 discloses where the said job includes a copy job in which image data for an original document ready by an original document reader is printed out or a print job in which image data received from an external terminal is printed out (*"Each of copying machines 1, 4, and 6 includes such functions as image reading, image processing with which read images are edited, and printing."* column 4, lines 25-26).

Regarding claim 4; Yoshida '757 discloses a data processing apparatus comprising: one or more compression/decompression unit(s) that compress the data for the input job and decompress the compressed data (*"image data is then compressed by compressing unit 311 and is stored into code memory 306 as compressed image data."* column 8, lines 1-3). See also (*" ...the image data is read from code memory 306, decompressed by decompressing unit 312, and written into image memory 304 as decompressed image data."* column 8, lines 32-34). Dye '273 discloses and a controller that, when a processing request is issued for processing of the data for a next job by said compression/decompression unit(s) during processing of the data for a current job by said compression/decompression unit(s), identifies an attribute of said next job, determines whether or not the data for said next job will undergo compression or decompression based on said identified next-job attribute, and controls the execution of processing of said next job by said compression/decompression unit(s) between pages of said current job in accordance with this determination (*"Thus, the compression cache control unit 281 along with the switch unit 261 determine the transaction type, priority and control required to complete the*

transaction by either the L3 data cache 291, the parallel compression and decompression unit

251 or the main memory interface 560." column 21, lines 63-67).

Regarding claim 5; Yoshida '757 discloses where the said next-job attribute consists of

whether the data processing for the next job is to take place on a page unit, band unit or block

unit basis (*"CPU 103 searches print job table PT for a job having the highest priority each time*

a page of job is processed. The job having the highest priority is generally processed first. Jobs

are deleted from print job table PT when the jobs are completed." column 11, lines 29-33).

Regarding claim 6; Yoshida '757 discloses where the said next-job attribute consists of

the type of the next job (*"The job IDs are job identification numbers for facsimile transmissions.*

The priorities indicate the priorities of the jobs for facsimile transmissions. The registration time

indicates the time when the job was registered. The job statuses indicate the current statues of

the jobs such as SUSPENDED, WAITING, and IN TRANSMISSION." column 11, lines 38-43).

Regarding claim 7; Yoshida '757 discloses where said next-job attribute consists of the

input source for the next job (*"CPU 103 for memory unit 30 controls memory unit 30 and*

external input/output controlling unit 50. More specifically, CPU 103 stores the image data,

which is requested by another apparatus via external input/output controlling unit 50, into

memory unit 30. CPU 103 reads the image data from memory unit 30 and instructs print

processing unit 40 to output the image data to execute printing. CPU 103 also instructs facsimile

converting unit 51 to output the image data to execute a facsimile transmission. CPU 103

instructs external input/output controlling unit 50 to output the image data to send the image

data to another apparatus for a requested job." column 7, lines 23-34).

Regarding claim 8; Yoshida '757 discloses where said next-job attribute consists of whether the data is binary data or multi-value data (*"For printing, the image data is read from code memory 306, decompressed by decompressing unit 312, and written into image memory 304 as decompressed image data. The image data in memory 304 is transferred to print processing unit 40 via rotation processing unit 307 and multi-valuing unit 308."* column 8, lines 33-37).

Regarding claim 10; Yoshida '757 discloses where said job includes a copy job in which image data for an original document ready by an original document reader is printed out or a print job in which image data received from an external terminal is printed out (*"Each of copying machines 1, 4, and 6 includes such functions as image reading, image processing with which read images are edited, and printing."* column 4, lines 25-26).

Regarding claim 11; Yoshida '757 discloses a data processing apparatus comprising: one or more compression/decompression unit(s) that compress the data for the input job and decompress the compressed data (*"image data is then compressed by compressing unit 311 and is stored into code memory 306 as compressed image data."* column 8, lines 1-3). See also (*" ...the image data is read from code memory 306, decompressed by decompressing unit 312, and written into image memory 304 as decompressed image data."* column 8, lines 32-34); Dye '273 discloses and a controller that, when a processing request is issued for processing of the data for a next job by said compression/decompression unit(s) during processing of the data for a current job by said compression/decompression unit(s), obtains the processing wait period between pages of said current job, identifies an attribute of said next job, and determines whether or not the data for said next job will undergo compression or decompression based on a

comparison between the minimum processing time for said next-job data and said processing wait period, as well as on said identified next-job attribute, and controls the execution of processing of said next job by said compression/decompression unit(s) between pages of said current job in accordance with this determination (*"Thus, the compression cache control unit 281 along with the switch unit 261 determine the transaction type, priority and control required to complete the transaction by either the L3 data cache 291, the parallel compression and decompression unit 251 or the main memory interface 560."* column 21, lines 63-67).

Regarding claim 12; Yoshida '757 discloses where said next-job attribute consists of whether the data for the next job is to take place on a page unit, band unit or block unit basis (*"CPU 103 searches print job table PT for a job having the highest priority each time a page of job is processed. The job having the highest priority is generally processed first. Jobs are deleted from print job table PT when the jobs are completed."* column 11, lines 29-33).

Regarding claim 13; Yoshida '757 discloses where said next-job attribute consists of the type of the next job (*"The job IDs are job identification numbers for facsimile transmissions. The priorities indicate the priorities of the jobs for facsimile transmissions. The registration time indicates the time when the job was registered. The job statuses indicate the current statues of the jobs such as SUSPENDED, WAITING, and IN TRANSMISSION."* column 11, lines 38-43).

Regarding claim 14; Yoshida '757 discloses where said next-job attribute consists of the input source for the next job (*"CPU 103 for memory unit 30 controls memory unit 30 and external input/output controlling unit 50. More specifically, CPU 103 stores the image data, which is requested by another apparatus via external input/output controlling unit 50, into*

memory unit 30. CPU 103 reads the image data from memory unit 30 and instructs print

processing unit 40 to output the image data to execute printing. CPU 103 also instructs facsimile

converting unit 51 to output the image data to execute a facsimile transmission. CPU 103

instructs external input/output controlling unit 50 to output the image data to send the image

data to another apparatus for a requested job." column 7, lines 23-34).

Regarding claim 15; Yoshida '757 discloses where said next-job attribute consists of

whether the data is binary data or multi-value data (*"For printing, the image data is read from*

code memory 306, decompressed by decompressing unit 312, and written into image memory

304 as decompressed image data. The image data in memory 304 is transferred to print

processing unit 40 via rotation processing unit 307 and multi-valuing unit 308." column 8, lines

33-37).

Regarding claim 17; Yoshida '757 discloses where said processing wait period is longer

than said minimum processing time, said controller permits said compression/decompression

unit(s) to process said next job between pages of said current job (*"For printing, the image data*

is read from code memory 306, decompressed by decompressing unit 312, and written into image

memory 304 as decompressed image data. The image data in image memory 304 is transferred

to print processing unit 40 via rotation processing unit 307 and multi-valuing unit 308." column

8, lines 33-38). See also (*"CPU 103 judges whether another page should be processed by*

referring to the memory management table while the current page is processed. If there is no

other pages to be processed, CPU 103 performs the termination process for the current job and

judges whether there is another job (S86, S80)." column 17, lines 66-67 thru column 18, lines

1-4).

Regarding claim 18; Yoshida '757 discloses where said controller compares said next-job data minimum processing time and said processing wait period after the next-job attribute is identified (*"Thus, the compression cache control unit 281 along with the switch unit 261 determine the transaction type, priority and control required to complete the transaction by either the L3 data cache 291, the parallel compression and decompression unit 251 or the main memory interface 560."* column 21, lines 63-67).

Regarding claim 19; Yoshida '757 discloses where said job includes a copy job in which image data for an original document read by an original document reader is printed out or a print job in which image data received from an external terminal is printed out (*"Each of copying machines 1, 4, and 6 includes such functions as image reading, image processing with which read images are edited, and printing."* column 4, lines 25-26).

3.   **Claims 9 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida '757 in combination with Dye '273 as applied to claim 4 above, and further in view of Nishikawa '046 et al. (US 6,934,046 hereinafter, Nishikawa '046).

Regarding claim 9; the combination of Yoshida '757 and Dye '273 does not expressly disclose where said next-job attribute consists of whether the data is monochrome data or color data.

Nishikawa '046 discloses where said next-job attribute consists of whether the data is monochrome data or color data (*"A field 1202 denotes physical page setting information in which the setting of layout or color/monochrome is stored when the layout or the color/monochrome can be designated for each physical page."* column 19, lines 22).

Yoshida '757 and Dye '273 are combinable with Nishikawa '046 because they are from

the same field of endeavor of a data processing apparatus (*"The present invention relates to an*

information processor for generating printing data... " Nishikawa '046 at column 1, lines 9-10).

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to modify the data processing apparatus as taught by the combination of Yoshida '757 and

Dye '273 by adding a next-job attribute consisting of whether the data is monochrome data or

color data as taught by Nishikawa '046.

The motivation for doing so would have been to provide an arrangement for combining

print jobs (*"...it is an object of the present invention to provide an arrangement for combining*

together print jobs respectively... " Nishikawa '046 at column 2, lines 19-20).

Therefore, it would have been obvious to combine Yoshida '757 and Dye '273 with

Nishikawa '046 to obtain the invention as specified in claim 4.

Regarding claim 16; Nishikawa '046 discloses where said next-job attribute consists of

whether the data is monochrome data or color data (*"A field 1202 denotes physical page setting*

information in which the setting of layout or color/monochrome is stored when the layout or the

color/monochrome can be designated for each physical page. " column 19, lines 19-22).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Marcus T. Riley whose telephone number is 571-270-1581. The

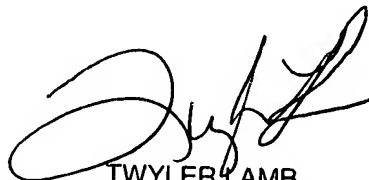examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler Lamb can be reached on 571-272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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